DOCUMENT RESUME

ED 298 643 EA 020 317

AUTHOR Oakes, Jeannie
TITLE Tracking in Secondary Schools: A Contextual Perspective.
INSTITUTION Rand Corp., Santa Monica, Calif.
REPORT NO RAND/P-7342
PUB DATE Apr 87
NOTE 28p.
AVAILABLE FROM Publication Sales, The RAND Corporation, 1700 Main Street, Santa Monica, CA 90406-2138 ($4.00).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Program Development; School Activities; Secondary Education; *Student Characteristics; *Track System (Education)

ABSTRACT

This article explores the school context of tracking, with a mention of the societal contexts of tracking. A brief review of tracking practices, assumptions, and evidence of effects is included in the beginning of the paper. Several relationships within the schooling context of tracking are discussed: (1) student characteristics and track placement; (2) track systems and track placements; (3) track systems, student placements, and learning opportunities; and (4) responses, outcomes, and future placements. Throughout the article, a set of hypotheses is raised to account for tracking's effects and its persistence as school practice. These hypotheses are as follows: (1) the schooling context of tracking consists of a complex set of relationships among structures and events within schools, and this schooling context has long-term consequences for students' cognitive and affective outcomes; (2) the societal context of tracking--specifically, historically grounded assumptions and shared norms about how schools should respond to student diversity--shapes the content and processes of school tracking; and (3) contextual considerations can explain tracking's persistence in schools despite empirical evidence against its effectiveness. Extensive references are included. (SI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED298643

TRACKING IN SECONDARY SCHOOLS: A CONTEXTUAL PERSPECTIVE

Jeannie Oakes

April 1987

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

M. Allen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EA020317

P-7342

BEST COPY AVAILABLE

The RAND Corporation

Papers are issued by The RAND Corporation as a service to its professional staff. Their purpose is to facilitate the exchange of ideas among those who share the author's research interests; Papers are not reports prepared in fulfillment of RAND's contracts or grants. Views expressed in a Paper are the author's own and are not necessarily shared by RAND or its research sponsors.

The RAND Corporation, 1700 Main Street, P.O. Box 2138, Santa Monica, CA 90406-2138

Tracking in Secondary Schools: A Contextual Perspective

Jeannie Oakes
The Rand Corporation

Tracking is nearly ubiquitous in secondary schools despite evidence suggesting its general ineffectiveness and likely negative effects on students in low tracks. Here it is argued that consideration of two contexts in which tracking is embedded is required for understanding how tracking works and why it persists. The schooling context (tracking's consequences for school and classroom practice) permits understanding of how tracking's educational effects may occur. The societal context (the beliefs, values, and circumstances that originally influenced the institution of tracking and may continue to shape current practice) provides an understanding of why tracking, and not some other approach, was adopted as the means for managing student diversity. It also provides insight into how race and class were historically confounded with tracking and may continue to influence practice. Analyses of these contexts suggest that tracking profoundly influences the day-to-day conduct of schools and reflects assumptions about how schools should respond to student diversity. This contextual view of tracking permits an understanding of why tracking is not easily reconsidered.

For at least 60 years, schools have practiced tracking and ability grouping, and researchers have attempted to determine whether it "works." Does tracking enhance schools ability to educate their diverse student populations? Researchers typically oppose tracking because the bulk of the empirical literature finds it to be generally ineffective (see, e.g., reviews by Esposito, 1973; Noland, 1985; Persell, 1977; Rosenbaum, 1980a). Desegregation litigation has focused attention on the contribution of tracking to unequal schooling for poor and minority children (Oakes, 1983b); and several courts, ruling on the schooling rights of the educationally handicapped to "mainstreamed" education, have cited negative effects of tracking (see,

Reprinted from *Educational Psychology*, Vol. 22, Number 2, Spring 1987, pp. 129–153,
© Lawrence Erlbaum Associates, Publishers. Reprinted by permission.

e.g., *Mills v. Board of Education,* 1972; *Pennsylvania Association of Retarded Children v. Commonwealth of Pennsylvania,* 1971). Several recent educational reform proposals and schooling reports have criticized the negative consequences of tracking (Achievement Council, 1985; Goodlad, 1984; National Commission on Excellence in Education, 1983; Powell, Farrar, & Cohen, 1985); some advocate abandoning the practice (Adler, 1981; Berman, 1985; Goodlad, 1984).

Despite empirical evidence, court decisions, and reform proposals, tracking remains a nearly universal practice in secondary schools. Usually, tracking is not seriously questioned by practitioners and policymakers; it is simply "how schools work." When the issue is raised, practitioners usually support tracking for its benefits to students, and because it seems to ease the instructional problems posed by individual differences. Their experience in managing schools and classrooms has apparently convinced practitioners that tracking is necessary.

Unfortunately, the tracking literature provides only limited understanding. Until quite recently, two questions have been of primary interest. The first, "Does tracking work?," has resulted in numerous studies of tracking's effects on students' cognitive and affective outcomes. The second question, "What determines track placement?," has promoted considerable inquiry into the influence of student characteristics such as race, class, and prior achievement on track assignments. Seldom has either of these questions led researchers to investigate tracking practices themselves, how tracking practices affect the distribution of learning experiences, or how, in turn, these features of tracking may contribute to student outcomes. Thus, although we have some compelling evidence that tracking works against many (often poor and minority students) and in favor of few (often privileged whites), we have little understanding of *how* tracking produces those outcomes. Moreover, the research provides little insight into why tracking remains entrenched in secondary schools despite the lack of empirical support for its effectiveness.

This article explores tracking from a contextual perspective. It argues that two contexts in which tracking is embedded are particularly important for understanding how tracking works and why it persists. The first is the schooling context of tracking, that is, tracking's consequences for school and classroom practice. This schooling context, increasingly of interest to researchers, permits some understanding of how tracking's educational effects may occur. The second context is the societal context of tracking, that is, the beliefs, values, and circumstances that originally influenced the institution of tracking in comprehensive secondary schools and may continue to shape current practice. This societal context provides a broader understanding of why tracking, and not some other approach, was adopted as the means for managing student diversity. It also provides insight into how issues of race and class were historically confounded with tracking and may continue to be in-

fluential. Analysis of these schooling and societal contexts suggests that tracking profoundly influences the day-to-day conduct of secondary schools and both reflects and interacts with fundamental assumptions about how schools should respond to student diversity. This contextual view of tracking permits a fuller understanding of why tracking is not easily reconsidered or changed. Before considering tracking's contexts, however, a brief review of tracking practices, assumptions, and evidence of effects is in order.

WHAT IS TRACKING?

Tracking places students who appear to have similar educational needs and abilities into separate classes and programs of instruction. Two forms of tracking predominate, although each is found in a variety of permutations. One form found at most senior high schools is *curriculum tracking*. Students are classified as in one or another track, and are expected to complete sequences of courses designed for college-preparatory students, vocational students, or general track students. Some schools do not have all three of these tracks, and others have more. For example, in California, differing college requirements encourage separate tracks for students preparing for entrance into the more selective University of California system and the somewhat less selective California State University system. Other schools have separate tracks for vocational students with a business emphasis and for those preparing for a trade.

A second form of tracking, widely used at junior highs and middle schools as well as at senior high schools, is *ability grouping*, the division of academic subjects (typically English, mathematics, science, and social studies) into classes at different "levels" for students of different abilities. Like curriculum tracking, ability grouping also varies from school to school. At some schools all academic subjects are tracked; at others, some are not (most often social studies). Schools also differ in the number of ability groups they form, and within the same school some subjects may have more levels than others. Some schools schedule students at the same ability level to stay together for blocks of subjects. At these schools a single decision about a student's ability often governs his or her placement in several subjects. Other schools track students separately for each subject. At these schools the same student might be placed in a "high ability" English class and in an "average" math class.

In many senior high schools, curriculum tracking and ability grouping overlap. These schools have both separate college-preparatory, general, and vocational programs and ability grouping in academic subjects. So, for example, a student in the college-preparatory track might be taking an "honors" English class, but also be in a "regular" section of college-preparatory math or science (Oakes, 1985). More likely than not, the student in the voca-

tional curriculum track will be in one of the lower ability tracks, so the distinction between the two types of tracking becomes more difficult to assess.

But tracking is not likely to proceed as neatly as the descriptions imply. The inflexibility and idiosyncrasies of developing the "master schedule" can create unplanned tracking, generate further variations among tracking systems, and may affect the courses taken by individual students as well. In some schools, for example, such elective subjects as art and home economics become low-track classes because college-preparatory students rarely have time to take them. In other schools, certain required classes, such as drivers' training, health, or physical education, intended to be heterogeneous, become tracked when students' other track requirements keep them together for most or all of the day (Oakes, 1985).

Despite these variations, tracking has common and predictable characteristics:

1. Students' academic performance is judged, and these judgments are the basis of group placements.
2. Classes and tracks are labeled in terms of the performance levels of the students in them (e.g., advanced, average, remedial) or according to students' expected post-secondary destination (e.g., college-preparatory, vocational).
3. The groups that are formed are not merely a collection of different but equally valued instructional groups, they form a hierarchy in schools with the most academic or advanced tracks seen as the "top." For evidence, we have only to look at how teachers jockey for assignment to the top tracks (Findley, 1984).
4. The curriculum and instruction in various tracks are tailored to the perceived needs and abilities of the students assigned to them.
5. Based on their track assignments, students at various track levels experience school differently.

WHAT ASSUMPTIONS UNDERLIE TRACKING?

First, and clearly most important, school practitioners generally assume that tracking promotes students' achievement, that all students will learn best when they are grouped with other students of similar capabilities or prior levels of achievement. Fundamental views of human capabilities appear to underlie this assumption, including the belief that students' capacities to master school work are so disparate that they require different and separate schooling experiences. Grouping is seen as the only appropriate means to accommodate these differences. A second assumption underlying tracking is that slow or less capable students will suffer emotional as well as educational damage

from daily contact with brighter peers. Lowered self-concepts and negative attitudes toward learning are widely considered to be consequences of mixed-ability grouping for slower learners. Also widely held is the assumption that group placements can be made both accurately and fairly. Finally, most teachers and administrators contend that homogeneous grouping greatly eases the teaching task. This assumption stems from the view that when tracks or ability groups are formed, the range of student differences is narrowed sufficiently to permit whole-class instruction (i.e., lessons organized around a common set of learning objectives, a single teaching strategy, common learning tasks, and universally applied criteria for success and rewards).

WHAT IS THE EVIDENCE?

Effects on Student Outcomes

Tracking's effects on student outcomes have been widely investigated. Unfortunately, this body of work is plagued with studies of varying quality and conflicting conclusions. The bulk of the evidence, however, does not support widely held beliefs that tracking generally increases students' learning or that it enhances students' attitudes about themselves and schooling.

Taken together, the literature on tracking's effects on student outcomes appears to support the following more specific conclusions.

First, *some* tracking systems appear to provide a cognitive advantage for students who are placed in the top tracks. Recent analyses of High School and Beyond data, for example, provide evidence that membership in the college preparatory track has a positive influence on student achievement, even when student background characteristics and prior ability are controlled (Gamoran, 1986; Lee, 1986; Rock, Ekstrom, Goertz, Hilton, & Pollack, 1985). Further, when students are placed in accelerated courses or special programs for the gifted and talented, they appear to benefit (see, e.g., the review by Kulik & Kulik, 1982). But these positive cognitive effects on high-ability students are not universally found (see Noland, 1985, for a recent review). Further, when advantages to students in the high-ability tracks do accrue, they do not seem to be primarily related to the fact that these tracks are homogeneously grouped. For example, controlled studies of students taking similar subjects in heterogeneous and homogeneous groups show that high-ability students (like other students) rarely benefit from these tracked settings (see Esposito, 1973; Kulik & Kulik, 1982; Noland, 1985, among others). Moreover, studies of students learning in small, heterogeneous, cooperative classroom groups provide evidence that the achievement of high-ability students can be enhanced in heterogeneous settings (Slavin, 1983; Webb, 1982).

Second, tracking systems appear to consistently hinder those students not placed in the top groups. Tracking is most often found to work to the academic detriment of students who are placed in low-ability classes or noncollege-preparatory groups (see e.g., reviews by Calfee & Brown, 1979; Esposito, 1973; Findlay & Bryan, 1970; Froman, 1981; Noland, 1985; Rosenbaum, 1980b). Further, students in vocational tracks do not even appear to be advantaged *vocationally* by their placements. Graduates of vocational programs may be less employable and earn lower wages than other high school graduates (Berg, 1971; Berryman, 1980; Grasso & Shea, 1979; Rubens, 1975; Stern, Hoachlander, Choy, & Benson, 1985). On the other hand, considerable support can be found for the positive effects on the least-able students of membership in heterogeneous classrooms (Esposito, 1973; Madden & Slavin, 1983; Noland, 1985; Persell, 1977; Rosenbaum, 1980b; Slavin, 1983).

Third, the bulk of the research does not appear to support the assumption that slow students will suffer emotional strains when enrolled in mixed-ability classes. In fact, the opposite has often been found to result. Rather than helping students to feel more comfortable about themselves, the tracking process seems to foster lowered self-esteem, lowered aspirations, and negative attitudes toward school (Alexander & McDill, 1976; Esposito, 1973; Noland, 1985; Rosenbaum, 1980a). Some studies have concluded that tracking leads these students to school misbehavior, and eventually to dropping out altogether (Schafer & Olexa, 1971).

Fourth, tracking's net effect is to widen the initial differences among students (Calfee & Brown, 1979; Esposito, 1973; Findlay & Bryan, 1970). Even students who are initially similar in background and aptitude exhibit increased differences resulting from their placements in higher and lower tracks. Tracking, therefore, can be seen to affect student outcomes independent of the characteristics that determined the track placement (Alexander, Cook, & McDill, 1978; Alexander & McDill, 1976). The net effect appears to be cumulative, as studies investigating track mobility have found that students' track placements tend to be quite fixed and long-term. Students placed in low-ability groups in elementary school are likely to continue in these tracks in middle schools and junior highs; they typically are placed in noncollege-preparatory tracks in senior high school. When mobility between track occurs, it is most often in a downward direction (Oakes, 1985, Rosenbaum, 1980a). Figure 1 illustrates this long-term tracking effect.

How Are Track Assignments Made?

The second topic of considerable investigation has been the determinants of track placements. To assign students to tracks, schools typically use standardized test scores, teacher and counselor recommendations, prior place-

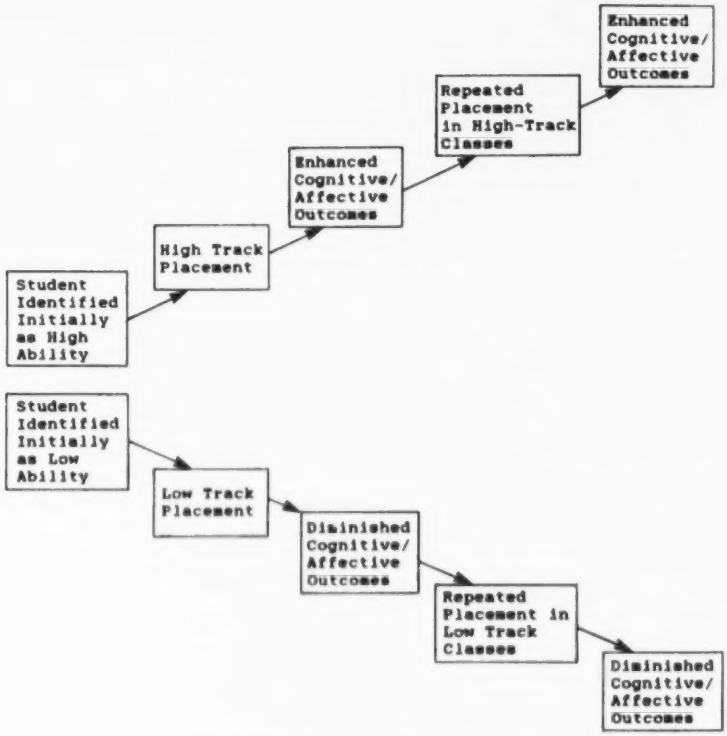
Student Identified Initially as High Ability
High Track Placement
Enhanced Cognitive/ Affective Outcomes
Repeated Placement in High-Track Classes
Enhanced Cognitive/ Affective Outcomes
Student Identified Initially as Low Ability
Low Track Placement
Diminished Cognitive/ Affective Outcomes
Repeated Placement in Low Track Classes
Diminished Cognitive/ Affective Outcomes

Figure 1 Long-term tracking effects.

ments and grades, and (for some senior high school students) student choice. Considerable confusion exists in the research literature about which student characteristics contribute most to track placements. Studies can be found that conclude that tracking is a meritorious practice—based almost entirely on ability or prior achievement (Davis & Haller, 1980; Rehberg & Rosenthal, 1978). Others conclude the opposite, that race and class have substantial influence on placements (Alexander & McDill, 1976; Jones, Vanfossen, & Spade, 1985; Rosenbaum, 1980b). Some analysts suggest that the issues of class and merit cannot be disentangled. They argue that because race and class biases are embedded in measures of ability and prior achievement, by the time students reach secondary schools, track placement according to these measures cannot be seen as strictly meritorious (see, e.g., Amato, 1980; Rosenbaum, 1980b). Other work suggests that students from different backgrounds are given different types of information, advice, and counselor attention, and that race and class-based placements are produced in the advising process (Cicourel & Kitsuse, 1963; Erickson, 1975; Heyns, 1974; Rosenbaum, 1976).

BEST COPY AVAILABLE

However, one finding about placements is undisputed: Disproportionate percentages of poor and minority youngsters (principally black and Hispanic) are placed in tracks for low-ability or noncollege-bound students (National Center for Educational Statistics, 1985b; Rosenbaum, 1980a); further, minority students are consistently underrepresented in programs for the gifted and talented (College Entrance Examination Board, 1985). Other evidence indicates that additional race and class differentiation occurs within vocational tracks, with blacks and Hispanics more frequently enrolled in programs that train for the lowest-level occupations (National Center for Educational Statistics, 1985b; Oakes, 1983). These race- and social-class placement differences appear whether test scores, counselor and teacher recommendations, or student and parent choices are the basis for placement.

IS TRACKING REQUIRED TO MEET INDIVIDUAL NEEDS?

So far, I have argued that tracking is based in part on practitioners' beliefs that individual differences matter in instruction and that separate classes are required to deal with these differences effectively. Clearly, students differ when they enter secondary schools. There is ample evidence that these differences influence learning, but separating students in order to accommodate the differences among them appears to be neither necessary nor appropriate.

The evidence just cited indicates that tracking has proven to be generally ineffective. Almost 60% of students in American public high schools are not assigned to the top tracks at their schools (Lee, 1986), and these students appear to be educationally disadvantaged by tracking. The literature suggests that students at all ability levels can achieve at least as well in heterogeneous classrooms, and those who are identified as of average or low ability usually do better in mixed groups. Moreover, educational theory and research have yet to identify particular individual differences that seem to require specific and separate instructional treatments (Good & Stipek, 1983); neither have research attempts to match particular treatments to student differences in aptitudes been particularly successful (Cronbach, 1975). Further, a number of subject-area experts argue that a common curricular experience provides the most promising approach to high-quality programs for all students (see, e.g., Early, 1983; Romberg, 1983).

The race and class consequences of tracking must be considered as well. Even if secondary school track placements are ostensibly "meritorious" (i.e., determined by prior school achievement), they usually represent judgments about supposedly fixed abilities. We could find appropriate the disproportionate placements of poor and minority students in low-track classes if these youngsters were, in fact, known to be innately less capable of learning than

middle- and upper-middle-class whites. That is not the case. Or, we might think of these track placements as appropriate *if* being in the low-track served to remediate the obvious educational deficiencies that many poor and minority students exhibit. If the low track placements served to prepare disadvantaged students for success in higher tracks and lead them to future educational or post-secondary opportunities, we would not likely question the need for them. However, this rarely happens.

Further compounding the lack of evidence supporting tracking are compelling ethical arguments for exposing all students to a common curriculum, even if individual differences among them prevent students from benefiting equally. For example, Fenstermacher (1983) argued that "using individual differences in aptitude, ability, or interest as the basis for curricular variation denies students equal access to the knowledge and understanding available to humankind"; and "It is possible that some students may not benefit equally from unrestricted access to knowledge, but this fact does not entitle us to control access in ways that effectively prohibit all students from encountering what Dewey called, 'the funded capital of civilization ' " (p. 3). This ethical concern takes on added significance given the links between track placements and student background characteristics. Because poor and ethnic minority students are disproportionately hindered by the restricted access to knowledge that tracking creates, tracking appears to jeopardize equal educational opportunity.

In short, tracking's effects run counter to what school practitioners intend. Although the literature on track placements and outcomes provides many clues, it offers little evidence as to why tracking has these effects or why it is difficult for schools to recognize and respond to these findings. For insight into these issues, we must consider tracking within its schooling and societal contexts.

THE SCHOOLING CONTEXT – SCHOOL AND CLASSROOM CONSEQUENCES OF TRACKING

The schooling context of tracking includes conditions and events in schools and classrooms that affect and are affected by tracking. This schooling context encompasses, first, the ways the tracking system influences schools' organization of curriculum and instruction generally, and, second, how membership in a particular track influences the experiences of students. Until quite recently, studies of tracking have not typically examined these contextual aspects of tracking as important in themselves; neither has research attempted to account for them in studies of tracking's effects on student outcomes. This "black box" approach to tracking has limited our understanding both of how tracking works and why it persists.

Recent quantitative and qualitative studies have begun to document the effects of tracking on such schooling events as students' course-taking patterns, the presentation of particular curriculum content, the use of various instructional strategies, the creation of classroom environments, and the development of peer relationships. The differences uncovered show that the opportunities to learn that result from these track-related events are considerably greater for students enrolled in the top tracks. By placing these studies in a larger framework, we can speculate about how the schooling context itself plays a role in producing the pattern of tracking effects described earlier.

Figure 2 illustrates more specifically how an extensive set of conditions and events associated with tracking may contribute to student outcomes and the stability of student placements over time. The figure suggests complex relationships among several elements: students' background characteristics, the particular tracking system the school employs, students' track placements, their school and classroom experiences, their responses to those experiences, their cognitive and affective outcomes, and their subsequent track placements. An important caveat goes with the following initial discussion of Figure 2: The purpose here is to draw broadly some principal relationships

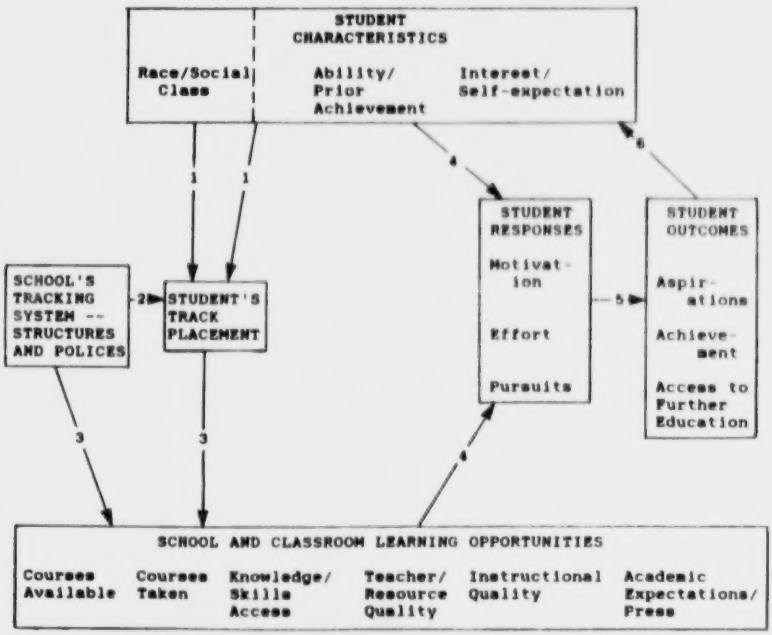

Figure 2 The schooling context of tracking.

BEST COPY AVAILABLE

among contextual elements diagramed in the figure. The challenge is to avoid seeing these relationships as a set of linear relationships or mechanical processes. Once these principal relationships are sketched, the dynamics of how they operate will be suggested as an "iterative process" that is produced as teachers and students respond to circumstances in their schools.

The relationships depicted in the figure highlight concerns quite different from those guiding the research discussed earlier. That work typically focused on how student characteristics directly affect track placements and how placements directly affect student outcomes. Figure 2 shows several important school, teacher, and student factors that may mediate track placements and outcomes. It suggests that tracking placements and effects may be influenced by the interplay of school and student characteristics *within the school context*. The sections that follow briefly review what a number of recent studies have learned about each of the relationships identified in the figure, offer some additional speculations about their contributions to tracking effects, and identify important gaps in our understanding.

STUDENT CHARACTERISTICS AND TRACK PLACEMENTS (Arrows #1)

Beginning at the upper left side of Figure 2, the first set of relationships illustrates that student characteristics determine track placements. Student characteristics are inputs to the tracking process to the extent that they influence how students begin the secondary schooling process. Clearly, student ability, prior achievement, self-expectations, and interests differ among students, and these differences influence students' initial skill level and shape the ease with which they learn. These and other characteristics—students' socioeconomic status (SES) and race, particularly—also influence the school's initial response to students. Differences among students are thought to require separate and different instructional treatments, and students with similar educational strengths and limitations or post-secondary destinations are sorted together into tracks. This relationship is well documented in the studies of track placement determinants discussed earlier (e.g., student ability, aspirations, race, and class).

TRACK SYSTEMS AND TRACK PLACEMENTS (Arrow #2)

Track placements are influenced by more than just student characteristics; they are influenced by school characteristics as well. Although secondary school tracking systems share a number of common properties, they also dif-

fer in some important ways: They can differ considerably in extensiveness (the number of subjects tracked), specificity (the number of track levels offered), placement criteria, and flexibility (whether students are placed separately subject-by-subject or whether a single decision about all subjects is made) (Oakes, 1985).

These variations among track structures and policies will influence how any particular student is classified and placed. Placement criteria (e.g., cutoff scores on standardized tests, prerequisite course requirements, and considerations of students' aspirations) are likely to differ from place to place. These differences are likely to result in the same student being placed differently at different schools. For example, recent studies contrasting tracking in public and Catholic senior highs found that schools in the two sectors differ in their track placements. This work suggests that student background characteristics are less influential in Catholic than in public schools, and that Catholic school placement practices result in about 20% more students in the college-preparatory track, even after student background characteristics are controlled (Kilgore, 1984; Lee, 1986). Other track policy variations such as "block scheduling" (students staying together at a particular level for classes in several subjects) can be expected to result in student assignments that are different from class-by-class placements. For example, a student who excels in math but is average in verbal skills might, under block scheduling, be placed in an average math class. Under a class-by-class system that student might be enrolled in a more advanced math class.

TRACK SYSTEMS, STUDENT PLACEMENTS, AND LEARNING OPPORTUNITIES (Arrow #3)

Both the track system at a school and a student's placement within that system influence the learning opportunities that the student has available. First, the school's tracking structures and policies shape opportunities by influencing the courses offered. For example, schools that emphasize their vocational or general track are less likely to offer advanced courses in science, mathematics, and foreign language than schools with extensive college-preparatory programs (Rock et al., 1985). School policies also establish curriculum guidelines and norms about what learning experiences are most suitable for students in the courses that are offered at various track levels. These also influence the learning opportunities.

Students' learning opportunities are further prescribed by teachers' day-to-day decisions about what knowledge and classroom experiences will be appropriate. Track-specific learning opportunities are not simply created by teachers at various levels enacting a predetermined curriculum. Although track differences are established in curriculum guides that contain the knowl-

edge, skills, and activities thought best suited for different tracks, they are also daily mediated within classrooms by teachers' global preconceptions about what types of lessons best "meet the needs" of various groups (Metz, 1978; Page, in press).[1] Nevertheless, although teachers may have considerable autonomy in creating classroom experiences, there appears to be a striking regularity in the differences in learning opportunities experienced by students in different tracks.

Access to Knowledge

Track placements affect students' access to various course offerings and shape the paths they take through the school curriculum. Lower-track students have fewer mathematics and science courses available to them, and they are nearly always required to take fewer academic courses (California State Department of Education, 1984; Gamoran, 1986; Guthrie & Leventhal, 1985; Vanfossen, Jones, & Spade, 1985). On the other hand, low-track students have greater access to elective courses in the arts and vocational subjects than most college-preparatory students, whose schedule of required courses allows little time for electives. The extent of differences varies among schools. For example, at Catholic senior high schools, students enrolled in nonacademic tracks typically take more academic courses and fewer electives than do their counterparts in public schools (Lee, 1986).

Within academic subjects, additional differences are found. The emphasis in low-track classes is on low-level topics and skills, and the focus of high-track classes is on concepts, processes, and higher-order skills (California State Department of Education, 1984; Davis, 1986; Hargreaves, 1967; Metz, 1978; Oakes, 1985; Powell et al., 1985; Squires, 1966; Trimble & Sinclair, 1986). Beyond academic content is the socialization students receive in class. Some work has suggested that differences in classroom socialization among track levels parallels the anticipated adult work roles of high-, average-, and low-track students (Bowles & Gintis, 1976; Oakes, 1985; Rosenbaum, 1976; Schafer & Olexa, 1971).

Teacher and Resource Quality

We know little about the allocation of resources to various track levels, but several examples support a general sense that teacher and resource quality are more generously distributed to higher tracks. High School and beyond data indicate that students in the college-preparatory track have disproportionate

[1]Some related investigations of teachers responses' to student differences with instructional "prescriptions" for reading groups has taken place at the elementary level. See, for example, work of Borko, Shavelson, and Stern (1981).

access to science laboratories (National Center for Educational Statistics, 1985b). Other evidence supports the notion that teachers themselves are tracked, with teachers judged to be the most competent, most experienced, or with the highest status at the school assigned to the top tracks (Davis, 1986; Findley, 1984; Hargreaves, 1967; Rosenbaum, 1976). Some work has found that when teachers teach more than one level, their upper-track classes capture most of their attention and energy (Rosenbaum, 1976). However, the recent Carnegie study of senior high schools suggests that the fewest teaching resources may be allocated to average-track students because these students are seen as "unspecial" (Powell et al., 1985).

Instructional Quality

Findings on the classroom effects of tracking are consistent. There is a clear pattern of instructional inequalities for students placed in low-ability groups or noncollege-preparatory tracks (California State Department of Education, 1984; Davis, 1986; Metz, 1978; Oakes, 1985; Trimble & Sinclair, 1986; Vanfossen et al., 1985). Differences have been found in the allocation of time (both in class and for homework), in teaching strategies employed, and in classroom climate. High-track students have the most time to learn. Teachers in high-track classes are clearer, more enthusiastic, and use less strong criticism, and classroom learning tasks appear to be better organized and of greater variety. Further, teacher–student relationships in high-track classes are more often characterized by warmth and supportiveness. Classroom climate differences include greater student disruption, hostility, and alienation in low-track classes. Given these differences, it is not surprising that teachers prefer high tracks and have more management problems in low-ability classes (Evertson, 1980).[2]

Academic Expectations and Press

Teacher expectations influence student outcomes. Academic press can be thought of as a combination of expectations and the focus and energy used to consistently "press" students toward academic accomplishments. Of interest here is how press is affected by the tracking context. A number of studies have documented the expected influences of a student's track level, and

[2]It is interesting to note that the perceived homogeneity of tracked classes appears to obscure the need to differentiate instruction within classes. Even though promising strategies do exist for dealing productively with heterogeneous student groups (see, e.g., the work on cooperative, small group learning, Slavin, 1983), little evidence exists that techniques are being used widely in secondary schools (Sirotnik, 1983).

"track label," on teacher expectations (see Persell, 1977, for a review of this literature). Thus it is not surprising to find that the press for academic learning has been found to be distributed unequally within schools, and that, in the course of classroom interactions, students in higher tracks receive the bulk of it (Oakes, 1985; Page, in press).

Track membership also influences students' peer associations in classes and in extracurricular activities, students' friendship choices (e.g., Alexander & McDill, 1976; Rehberg & Rosenthal, 1978; Rosenbaum, 1976), and the academic orientations of these friends (Vanfossen et al., 1985). These associations influence academic press. For example, peer relationships are important for school effort and academic aspirations (e.g., Coleman, 1961). When the peer group is oriented toward academics, student achievement is positively affected (McDill & Rigsby, 1973; Persell, 1977). Further, because track placement is based on student attitude, behavior, and motivation, as well as ability, low tracks are particularly impoverished in peer dispositions toward achievement.

All of the school-specific experiences discussed here illustrate a distribution of knowledge, activities, and relationships to students that is influenced by the tracking system at their schools and their placement in it. These differences, in turn, influence how students respond to their school experiences, to what they learn, and to which tracks they are assigned in the future.

CHARACTERISTICS, OPPORTUNITIES, AND STUDENTS' RESPONSES TO SCHOOLING (Arrows #4)

Both student characteristics and their opportunities to learn influence their responses to schooling, including their motivation for learning, the level of effort they put forth, and their actual classroom pursuits (e.g., what learning tasks they engage in). The knowledge and skills students are asked to learn, the classroom activities they engage in, their relationships with their classmates, and the quality of teaching they experience are all likely to influence attendance, time spent on homework, and attention in class, to name a few of the most easily observed indicators of motivation and effort. These responses, perhaps even more than background characteristics, further influence what teachers attempt to accomplish in class. Recent qualitative studies of low-track classrooms provide some evidence of how this interactive process occurs (Everhart, 1983; McNeil, 1981, in press; Page, in press; Willis, 1977). These studies show clearly that tracking is not merely a neutral or passive conduit through which student characteristics "take their natural course" toward high-, average-, or low-achievement outcomes, aspirations, and attitudes.

RESPONSES, OUTCOMES, AND FUTURE PLACEMENTS (Arrows #5 and #6)

Finally, Figure 2 posits that students' responses to schooling mediate the effects of student characteristics and track-determined learning opportunities on outcomes. This suggested relationship is consistent with recent studies supporting a chain of influence from student characteristics, through track-specific course-taking patterns, to student outcomes (Gamoran, 1986; Lee 1986). Figure 2, however, goes further and suggests that students' responses to their track experiences directly affect student attitudes, aspirations, achievement, and access to further education. Thus, as a result of these mutual influences, Figure 2 depicts a cycle with student responses, an integral component of the schooling context, leading not only to outcomes but to future track placements as well. It is in the connection between these outcomes and completion of the cycle where the outcomes become next year's prior achievement, ability, and interest. This cycle is the context for understanding the evidence on tracking's effects.

AN ITERATIVE PROCESS

Largely because it occupies two-dimensional space, the depiction of the schooling context in Figure 2 creates an unfortunate linear impression. Understanding tracking as a series of inputs, mediating variables, and outcomes is insufficient. Disentangling causes and effects over the long-term may prove impossible. Tracking as a contextual process is likely to spiral. At any point in time, a particular element (placement, student characteristics, classroom experiences, effort, achievement, etc.) may be an input, mediator, or outcome, a cause or an effect. Because track placements begin early (some suggest with first-grade reading group assignments), it is probable that the processes described in the figure cycle repeatedly during a student's schooling experience, not identically, but with each successive cycle building on the effects of the previous series of interactions and effects. Small differences at any one point in time very likely add up over time. The impact is likely to be cumulative, in a particular direction, and, metaphorically, gather momentum. When the evidence about tracking effects is placed in this cumulative contextual perspective, the hypotheses suggested in Figure 3 can be raised. The cycle depicted here shows how the schooling context structures tracking's long-term effects on student outcomes.

Figure 3 suggests that initial and relatively small aptitude differences among students, often due to social background differences (Calfee, 1979),

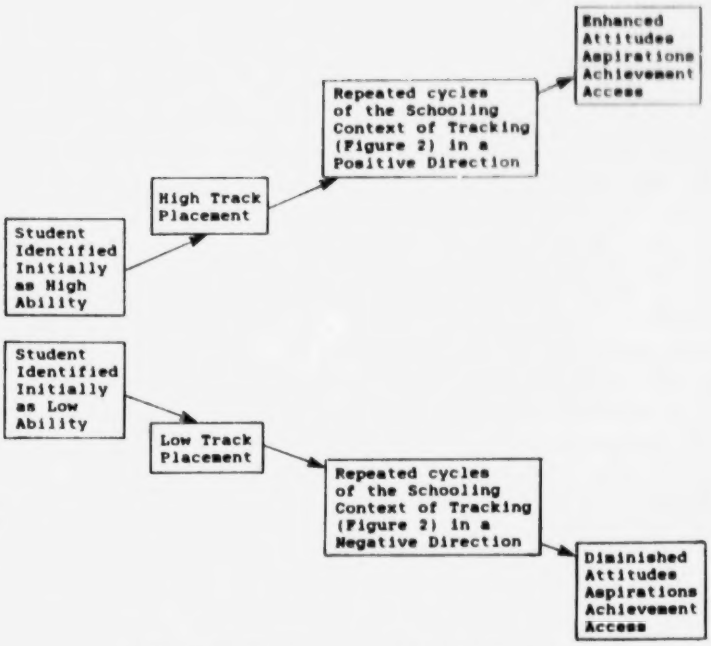
Student Identified Initially as High Ability
High Track Placement
Repeated cycles of the Schooling Context of Tracking (Figure 2) in a Positive Direction
Enhanced Attitudes Aspirations Achievement Access
Student Identified Initially as Low Ability
Low Track Placement
Repeated cycles of the Schooling Context of Tracking (Figure 2) in a Negative Direction
Diminished Attitudes Aspirations Achievement Access

Figure 3 The consequences of the tracking cycle.

are exacerbated by ability-group placement, resulting experiences, attendant attitudes, interests, and expectations, in elementary school. By middle school or junior high, track placement is more or less crystallized. The process cycles throughout secondary school, with the differences among students growing dramatically wider.

This framework helps account for the "blindness" to tracking's effects of some practitioners and other school observers. Decisions at any one moment—especially in earlier grades—may seem slight and even go undetected. Because differentiating decisions are made on the behalf of students, the supposed benefits of the moment (e.g., remediation) help to obscure the possibility of longer-range negative effects. In later school years, the accumulated incremental effects of tracking are so consequential that the suggestion that students could benefit from a common curricular and instructional experience is difficult to comprehend and accept. Even the suggestion that the tracking structure itself has played a part in creating these differences (rather than simply biology, culture, or merit) is not compatible with observed "reality."

BEST COPY AVAILABLE

THE SOCIETAL CONTEXT

So far, schools and their tracking systems have been considered in relative isolation, as if they were untouched by a larger societal context. This is not surprising, as tracking is most often studied as a technical, pedagogical response to individual differences. Tracking, however, stems from and exists within a set of historical circumstances and values that provided the basis for its institution in American secondary schools.[3] Tracking also exists within a current social milieu that shares norms and expectations about what schools ought to accomplish. If academics and practitioners are to understand why tracking and not some other approach developed in response to student diversity and why it is so resistant to change, this context also requires scrutiny.

Understanding the societal context of tracking is useful because it raises the possibility that the persistence of tracking rests more on social and historical than on educational grounds.[4] It permits consideration of whether the continued use of tracking reflects some remaining, if unintended, influence of the events and assumptions that led to its adoption (Oakes, 1986)—whether, for example, the need to certify students as eligible for various post-high school opportunities overrides the potential educational benefits of common curricular experiences. In short, this perspective might help clarify some enduring anomalies.

Figure 4 attempts to situate tracking into its larger societal context and to speculate how this context serves to influence current tracking practices.

The process depicted in Figure 4 suggests that a school's student body characteristics, the perceived educational implications of race and class differences, and prevailing beliefs about secondary schooling's purpose to prepare and certify students for their adult roles in the workplace interact to influence the particular kind of tracking system that is developed. This hypothesis is consistent with evidence showing that tracking systems vary among schools serving different types of students in characteristic ways. For example, the number, size, and substance of tracks have been found to differ with the composition of schools' student populations—the greater the percentage of minorities, the larger the low-track program; the poorer the students, the less rigorous the college-preparatory program (Hanson, 1985, 1986). Further, High school and beyond data show that schools serving predominantly poor and minority populations offer fewer advanced and more remedial courses in

[3]Fortunately, this history has been richly documented in several excellent sources. See, for example, chapter 6 in Powell et al.'s *The Shopping Mall High School* (1985). Other important sources include Callahan (1962), Cohen and Lazerson (1972), Goldman (1952), Gould (1981), Kliebard (1979), and Lazerson (1971), to name just a few.

[4]See Sirotnik and Oakes (1981, 1986) for a discussion of the possibilities and problems of context-based inquiry as an ongoing process in schools attempting to improve.

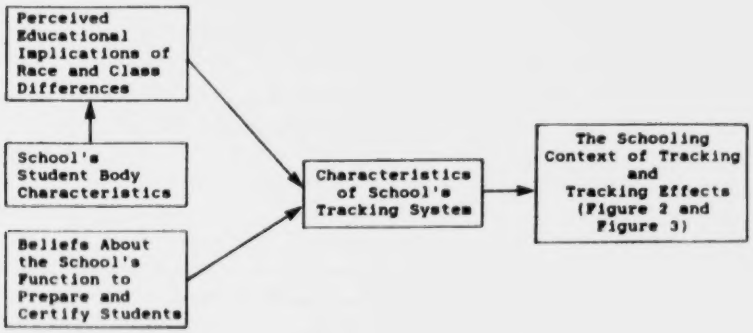
Perceived Educational Implications of Race and Class Differences
School's Student Body Characteristics
Beliefs About the School's Function to Prepare and Certify Students
Characteristics of School's Tracking System
The Schooling Context of Tracking and Tracking Effects (Figure 2 and Figure 3)

Figure 4 The societal context of tracking.

academic subjects, and that they have smaller academic tracks and larger vocational programs (National Center for Educational Statistics 1985a; Rock et al., 1985). This work supports the hypothesis that schools design tracking structures that make sense to them, given their student populations and their beliefs about what programs are appropriate for them.

Of course, minority and low-SES students are, on the average, lower in achievement by the time they reach secondary school, and schools respond to those differences with programs they see as educationally appropriate. But what is of particular interest here is that the prevailing view of appropriate schooling for these students—lower-track and vocational programs—is, in fact, often detrimental. Placement in these programs, as has been argued here, continues a cycle of restricted opportunities, diminished outcomes, and exacerbated differences between low-track students and their counterparts in higher tracks. These placements do not appear to either overcome students' academic deficiencies or to provide them access to high-quality learning opportunities. Despite this evidence, tracking persists. School practitioners appear to be impeded in their attempt to achieve educational ends by socially influenced definitions of students' differences and socially influenced prescriptions for educational practice to accommodate them.[5]

IMPLICATIONS OF A CONTEXTUAL PERSPECTIVE

School practitioners support tracking because they are convinced that, considering the tradeoffs, it is best for students. Because tracking enables schools to provide differentiated curriculum and instruction, practitioners

[5]See Popkewitz (1983) for an insightful essay on the social and political bases for the definitions of individual differences and their pedagogical implications.

BEST COPY AVAILABLE

are persuaded that if students are placed in the "right" track, they will have the best opportunity for school success. Although the empirical evidence suggests a substantial gap between these intentions and the effects of tracking, the dilemma is that well-intentioned, hard-working people appear locked into a school structure that is contradictory to the expressed goals of schooling. This is surely a testimony to the power and complexity of both the schooling and societal contexts of tracking.

The schooling and societal contexts help to explain why practitioners respond to empirical findings on tracking with ambivalence. First, practitioners almost universally recognize and lament the negative consequences of tracking on students in low-track classes; most teachers and administrators have had discouragingly unsuccessful experiences trying to make these programs work. Many suspect that when a group of the lowest achieving and most poorly behaved students are together in classrooms, the individuals in the class perform far below what they might under other circumstances. But practitioners' concerns about protecting the educational opportunities of the top-track students are even more salient. Research conclusions that able students are likely to continue to do well even if they are placed in heterogeneous groups are dissonant with practitioners' experiences. The schooling context of tracking offers clear school advantages to students in the top tracks, and findings that high-achieving students can learn equally well in mixed classes simply don't account for noticeable, concrete advantages practitioners, students, and parents can see in schools.

Much practical concern centers on the perceived near-impossibility of teaching classes with a wide range of student ability. Maintaining current curriculum and instructional practices under conditions of classroom heterogeneity is a mind-boggling proposition to practitioners already struggling with too many students and ever-increasing expectations for improved achievement. Instruction in secondary classrooms (regardless of track level) is grounded in the presumption of student homogeneity. It is characterized by competitive whole-group instruction; lecturing as the prevailing teaching strategy; common assignments, due dates, and tests for all students; and a single set of standards of competence and criteria for grades. Although diversity among students within tracks is evident, it is not thought to be of a magnitude to require multiple learning experiences. It is not so much that practitioners have had extended or deliberate experiences trying to teach heterogeneous groups at the secondary level; few have. It is more that they cannot imagine mixing what they believe to be two or three distinctly different groups of students and maintaining the high quality of instruction they see high-ability groups now receiving.

Moreover, schools do not operate in a vacuum. Definitions of "individual differences" and of what different students "need" are social as well as educational. Students who are identified as less able are more often those who have less socially and economically. These kids are often seen as more disposed to

working with their "hands" rather than their "heads." What they need is not seen to be the same abstract knowledge and skills that are suited to their more able peers. What they need is more often thought to be functional literacy skills and good deportment that will provide them entry into the lower levels of the work force. Given these socially influenced definitions, practitioners are not easily persuaded that a largely common curriculum taught mostly in heterogeneous groups is a promising approach to educating diverse groups of students. Further, alterations in school practice must pass social as well as educational tests. Certifying some for entrance into college and universities and preparing others with functional skills and acceptable workplace behaviors are what society expects from its schools. Even if practitioners were convinced of the educational value of "detracking" schools, the tracked curriculum is well suited to certifying students for different futures.

Througout this article, I have raised a set of hypotheses to account for tracking's effects and its persistence as school practice. These hypotheses have focused on the importance of both the schooling and societal contexts of tracking. First, I have posited that the schooling context of tracking consists of a complex set of relationships among structures and events within schools, and that this schooling context has long-term consequences for students' cognitive and affective outcomes. Second, I have suggested that the societal context of tracking—specifically, historically grounded assumptions and shared norms about how schools should respond to student diversity—shapes the content and processes of school tracking. Third, I have argued that these contextual considerations can explain tracking's persistence in schools despite empirical evidence against its effectiveness.

These hypotheses imply that asking practitioners to rethink tracking is asking them to reconceptualize fundamental school processes and purposes. Altering tracking practices in ways that might interrupt the now predictable cycle of student background differences, track placements, and student outcomes requires an understanding of both its centrality and its complexity. The societal context of tracking must be examined for its relevance to schooling assumptions and events. The schooling context of day-to-day practices must be considered as integral to tracking outcomes. These contextual considerations can extend the frustrating "Does it work?" question to include the issues of "How?" "For whom?" and "Toward what ends?" For researchers to fully understand tracking and practitioners to make informed decisions about it, these questions must be addressed.

ACKNOWLEDGMENT

This article is an extension of analyses that appear in *Keeping Track: How Schools Structure Inequality* (Yale University Press, 1985). This work was

conducted under the auspices of the Laboratory in School and Community Education, Graduate School of Education, University of California, Los Angeles.

I wish to acknowledge helpful comments on earlier drafts by Martin Lipton and Robert Slavin.

REFERENCES

Achievement Council. (1985). *Excellence for whom?* San Francisco: Author.

Adler, M. (1981). *The paiedia proposal: An educational manifesto.* New York: Macmillan.

Alexander, K. A., Cook, M., & McDill, E. L. (1978). Curriculum tracking and educational stratification: Some further evidence. *American Sociological Review, 43,* 47–66.

Alexander, K. A., & McDill, E. L. (1976). Selection and allocation within schools: Some causes and consequences of curriculum placement. *American Sociological Review, 41,* 969–980.

Amato, J. A. (1980, April). *Social class discrimination in the schooling process: Myth and reality.* Paper presented at the annual meeting of the American Educational Research Association, Boston.

Berman, P. (1985). The next step: The Minnesota plan. *Kappan, 67,* 188–193.

Berg, I. (1971). *Education and jobs: The great training robbery.* Boston: Beacon.

Berryman, S. E. (1980). *Vocational education and the work establishment of youth: Equity and effectiveness issues.* Santa Monica, CA: Rand Corporation.

Borko, H., Shavelson, R. J., & Stern, P. (1981). Teachers' decisions in the planning of reading instruction. *Reading Research Quarterly, 16,* 449–466.

Bowles, S., & Gintis, H. (1976). *Schooling in capitalist America.* New York: Basic.

Calfee, R. C. (1979). *Human diversity: Implications for schools.* Unpublished manuscript, Stanford University, Stanford, CA.

Calfee, R. C., & Brown, R. (1979). Grouping students for instruction. In D. L. Duke (Ed.), *Class management* (pp. 144–181). Chicago: University of Chicago Press.

California State Department of Education. (1984). *California high school curriculum study: Paths through high school.* Sacramento, CA: Author.

Callahan, R. E. (1962). *Education and the cult of efficiency.* Chicago: University of Chicago Press.

Cicourel, A. V., & Kitsuse, J. I. (1963). *The educational decisionmakers.* Indianapolis: Bobbs-Merrill.

Cohen, D. A., & Lazerson, M. K. (1972). Education and the corporate order. *Socialist Revolution, 2,* 53.

Coleman, J. S. (1961). *The adolescent society.* New York: Free Press.

College Entrance Examination Board. (1985). *Equality and excellence: The educational status of black Americans.* New York: Author.

Cronbach, L. J. (1975). Beyond the two disciplines of scientific inquiry. *American Psychologist, 30,* 116–127.

Davis, D. G. (1986, April). *A pilot study to assess equity in selected curricular offerings across three diverse schools in a large urban school district: A search for methodology.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Davis, S. A., & Haller, E. J. (1980, April). *Determinants of eighth graders' placement in high school tracks.* Paper presented at the annual meeting of the American Educational Research Association, Boston.

Early, M. (1983). A common curriculum in language and literature. In G. D. Fenstermacher &

J. I. Goodlad (Eds.), *Individual differences and the common curriculum* (pp. 186–218). Chicago: University of Chicago Press.

Erickson, F. (1975). Gatekeeping the melting pot. *Harvard Educational Review, 45,* 44–70.

Esposito, D. (1973). Homogeneous and heterogeneous ability grouping: Principal findings and implications for evaluating and designing more effective educational environments. *Review of Educational Research, 43,* 163–179.

Everhart, R. B. (1983). *Reading, writing, and resistance: Adolescence and labor in a junior high school.* London: Routledge & Kegan Paul.

Evertson, C. M. (1980). *Differences in instructional activities in high and low achieving junior high classes.* Austin, TX: University of Texas, Research and Development Center for Teacher Education.

Fenstermacher, G. D. (1983). Introduction. In G. D. Fenstermacher & J. I. Goodlad (Eds.), *Individual differences and the common curriculum* (pp. 1–8). Chicago: University of Chicago Press.

Findlay, W. G., & Bryan, M. M. (1970). *Ability grouping: 1970 status, impact, and alternatives.* Athens, GA: University of Georgia, Center for Educational Improvement.

Findley, M. K. (1984). Teachers and tracking in a comprehensive high school. *Sociology of Education, 57,* 233–243.

Froman, R. D. (1981, April). *Ability grouping: Why do we persist and should we?* Paper presented at the annual meeting of the American Educational Research Association, Los Angeles.

Gamoran, A. (1986, April). *The stratification of high school learning opportunities.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Goldman, E. (1952). *Rendezvous with destiny.* New York: Random House.

Good, T. L., & Stipek, D. J. (1983). Individual differences in the classroom: A psychological perspective. In G. D. Fenstermacher & J. I. Goodlad (Eds.), *Individual differences and the common curriculum* (pp. 9–43). Chicago: University of Chicago Press.

Goodlad, J. I. (1984). *A place called school: Prospects for the future.* New York: McGraw-Hill.

Gould, S. J. (1981). *The mismeasure of man.* New York: Norton.

Grasso, J., & Shea, J. (1979). *Vocational education and training: Impact on youth.* Berkeley, CA: Carnegie Council on Policy Studies in Higher Education.

Guthrie, L. F., & Leventhal, C. (1985, April). *Opportunities for scientific literacy for high school students.* Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Hanson, S. (1985, April). *The college preparatory curriculum at two high schools in one school district.* Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Hanson, S. (1986, April). *The college preparatory curriculum across schools: Access to similar types of knowledge?* Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Hargreaves, D. H. (1967). *Social relations in a secondary school.* London: Routledge & Kegan Paul.

Jones, J. D., Vanfossen, B., & Spade, J. (1985, April). *Curriculum placement: Individual and school effects using the High School and Beyond data.* Paper presented at the annual meeting of the American Sociological Association.

Kilgore, S. (1984). Schooling effects: Reply to Alexander and Pallas. *Sociology of Education, 57,* 59–61.

Kliebard, H. M. (1979). The drive for curriculum change in the United States, 1890–1958. *Curriculum Studies, 11,* 191–202.

Kulik, C. C., & Kulik, J. A. (1982). Effects of ability grouping on secondary school students: A meta-analysis of evaluation findings. *American Educational Research Journal, 19,* 415–428.

Lazerson, M. (1971). *The origins of the urban school.* Cambridge, MA: Harvard University Press.

Lee, V. E. (1986, April). *The effect of curriculum tracking on the social distribution of achievement in Catholic and public secondary schools.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Madden, N., & Slavin, R. E. (1983). Mainstreaming students with mild handicaps: Academic and social outcomes. *Review of Educational Research, 53,* 519–569.

McDill, E. A., & Rigsby, L. C. (1973). *The structure and process in secondary schools: The academic impact of educational climates.* Baltimore: Johns Hopkins University Press.

McNeil, L. M. (1981). Negotiating classroom knowledge: Beyond achievement and socialization. *Journal of Curriculum Studies, 13,* 313–328.

McNeil, L. M. (in press). *Contradictions and control: School structure and school knowledge.* London: Routledge & Kegan Paul.

Metz, M. H. (1978). *Classrooms and corridors: The crisis of authority in desegregated secondary schools.* Berkeley: University of California Press.

Mills v. Board of Education, 348 F. Supp. 866 (1972).

National Center for Educational Statistics. (1985a). *Analysis of course offerings and enrollments as related to school characteristics* (Rep. No. NCES 85-207). Washington, DC: U.S. Government Printing Office.

National Center for Educational Statistics. (1985b). *High school and beyond: An analysis of course-taking patterns in secondary schools as related to student characteristics* (Rep. No. NCES 85-206). Washington, DC: U.S. Government Printing Office.

National Commission on Excellence in Education. (1983). *A nation at risk* (Rep. No. 065-000-00177-2). Washington, DC: U.S. Government Printing Office.

Noland, T. K. (1985). *The effects of ability grouping: A meta-analysis of research findings.* Unpublished doctoral dissertation, University of Colorado, Boulder.

Oakes, J. (1983b). Tracking and ability grouping in American schools: Some constitutional questions. *Teachers College Record, 84,* 801–819.

Oakes, J. (1985). *Keeping track: How schools structure inequality.* New Haven, CT: Yale University Press.

Oakes, J. (1986). Tracking, inequality, and the rhetoric of reform: Why schools don't change. *Journal of Education, 168,* 161–181.

Page, R. (in press). Lower-track classes at a college-preparatory high school: Caricatures of educational encounters. In G. Spindler (Ed.), *Interpretive ethnography of education at home and abroad.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Pennsylvania Association of Retarded Children v. Commonwealth of Pennsylvania, 334 F. Supp. (1971) and 343 F. Supp. 279 (1972).

Persell, C. J. (1977). *Education and inequality: The roots and results of stratification in America's schools.* New York: Free Press.

Popkewitz, T. S. (1983). The sociological bases for individual differences: The relation of solitude to the crowd. In G. D. Fenstermacher & J. I. Goodlad (Eds.), *Individual differences and the common curriculum* (pp. 44–74). Chicago: University of Chicago Press.

Powell, A. G., Farrar, E., & Cohen, D. K. (1985). *The shopping mall high school: Winners and losers in the educational marketplace.* Boston: Houghton Mifflin.

Rehberg, R. A., & Rosenthal, E. R. (1978). *Class and merit in the American high school.* New York: Longman.

Rock, D. A., Ekstrom, R. B., Goertz, M. E., Hilton, T. L., & Pollack, J. (1985). *Study of excellence in high school education: Longitudinal study, 1980–82. Final report.* Princeton, NJ: Educational Testing Service.

Romberg, T. A. (1983). A common curriculum for mathematics. In G. D. Fenstermacher & J. I. Goodlad (Eds.), *Individual differences and the common curriculum* (pp. 121–159) Chicago: University of Chicago Press.

Rosenbaum, J. E. (1976). *Making inequality: The hidden curriculum of high school tracking.* New York: Wiley.

Rosenbaum, J. E. (1980a). Social implications of educational grouping. In D. C. Berliner (Ed.), *Review of research in education* (Vol. 8, pp. 361–401). Washington, DC: American Educational Research Association.

Rosenbaum, J. E. (1980b). Track misperceptions and frustrated college plans: An analysis of the effects of tracks and track perceptions in the national longitudinal study. *Sociology of Education, 53,* 74–88.

Rubens, B. (1975). Vocational education for all in high school? In J. O'Toole (Ed.), *Work and the quality of life* (pp. 299–337). Cambridge, MA: MIT Press.

Schafer, W. E., & Olexa, C. (1971). *Tracking and opportunity.* Scranton, PA: Chandler.

Sirotnik, K. A. (1983). What you see is what you get: Consistency, persistency, and mediocrity in classrooms. *Harvard Educational Review, 53,* 16–31.

Sirotnik, K. A., & Oakes, J. (1981). A contextual appraisal system for schools: Medicine or madness? *Educational Leadership, 39,* 165–173.

Sirotnik, K. A., & Oakes, J. (1986). Critical inquiry for school renewal: Liberating theory and practice. In K. A. Sirotnik & J. Oakes (Eds.), *Critical perspectives on the organization and improvement of schooling* (pp. 3–94). Hingham, MA: Kluwer-Nijhoff.

Slavin, R. E. (1983). *Cooperative learning.* New York: Longman.

Squires, J. R. (1966). National study of high school English programs: A school for all reasons. *English Journal, 55,* 282–290.

Stern, D., Hoachlander, E. G., Chov, S., & Benson, C. (1985). *One million hours a day: Vocational education in California public secondary schools: Report to the California Policy Seminar.* Berkeley: University of California School of Education.

Trimble, K., & Sinclair, R. L. (1986, April). *Ability grouping and differing conditions for learning: An analysis of content and instruction in ability-grouped classes.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Vanfossen, B. E., Jones, J. D., & Spade, J. Z. (1985, April). *Curriculum tracking: Causes and consequences.* Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Webb, N. M. (1982). Group composition and group interaction and achievement in small groups. *Journal of Educational Psychology, 74,* 475–484.

Willis, P. E. (1977). *Learning to labour: How working class kids get working class jobs.* Lexington, MA: Lexington.